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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,387	01/13/2004	Hidekazu Kawashima	NEC03P207-SY a	9950
21254	7590	01/10/2006	EXAMINER	
MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			GUERRERO, MARIA F	
			ART UNIT	PAPER NUMBER
			2822	

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/755,387	KAWASHIMA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Maria Guerrero	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 7-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This Office Action is in response to the Election filed October 28, 2005.

**Status of Claims**

2. Claims 1-16 are pending.

***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Election/Restrictions***

4. Applicant's election without traverse of Group I (claims 1-6) in the reply filed on October 28, 2005 is acknowledged.

Claims 7-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 28, 2005.

***Information Disclosure Statement***

5. The information disclosure statement filed January 13, 2004 has been considered.

***Specification***

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

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requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites "said fill cells are arranged such that a distribution ratio falls within the range 30-55% in said element formation area, said distribution ratio being the proportion of said diffusion layer that are distributed in said element formation area of said semiconductor device"; the independent claim 1 recites "arranging at least one fill cell with a diffusion layer and no wiring, in vacant area". Clarification is requested.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Asami (US 4,750,027).

Asami shows a method of producing a layout pattern of a semiconductor device, comprising the steps of: arranging primitive cells having circuit patterns of constituent elements of said semiconductor device in an element formation area of said semiconductor device; and arranging at least one fill cell with a diffusion layer and no wiring, in vacant area that is generated after said primitive cells associated with all constituent elements of said semiconductor device have been arranged (Abstract, Figs. 1-5B, 8-11, col. 2, lines 58-67, col. 3, lines 1-68, col. 4, lines 20-50, col. 5, lines 1-68, col. 6, lines 3-30). Asami discloses the fill cells being arranged such that said diffusion layers are uniformly distributed in said element formation area of said semiconductor device (Figs. 1-5B, 8-11).

In addition, the elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e., identity of terminology is not required. In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asami (US 4,750,027) in view of Osono et al. (JP 11-176941).

Asami shows a method of producing a layout pattern of a semiconductor device, comprising the steps of: arranging primitive cells having circuit patterns of constituent elements of said semiconductor device in an element formation area of said semiconductor device; and arranging at least one fill cell with a diffusion layer and no wiring, in vacant area that is generated after said primitive cells associated with all constituent elements of said semiconductor device have been arranged (Abstract, Figs. 1-5B, 8-11, col. 2, lines 58-67, col. 3, lines 1-68, col. 4, lines 20-50, col. 5, lines 1-68, col. 6, lines 3-30). Asami discloses the fill cells being arranged such that said diffusion layers are uniformly distributed in said element formation area of said semiconductor device (Figs. 1-5B, 8-11).

Regarding claims 4-5, Asami does not specifically show the plurality of types of fill cells having different sizes being identified, grouping and sorting the constituent elements having related operation in order to be arranged in proximity. However, Osono et al. teaches the plurality of types of fill cells having different sizes being identified, grouping and sorting the constituent elements having related operation in order to be arranged in proximity (Detailed Description, paragraphs 0011-0044, Operation, paragraphs 0042-0044).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to recognize that identifying, grouping and sorting would be infer from Asami reference because is necessary present as evidence Osono et al. in order to reduce the manufacturing cost.

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10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asami (US 4,750,027) in view of Applicant admitted prior art.

11. Regarding claim 6, Asami does not specifically show producing a mask data for fabricating a reticle to be used in fabricating the semiconductor device. However, Applicant admitted prior art is presented as evidence to show that the step of producing a mask data for fabricating a reticle to be used in fabricating the semiconductor device is conventional in the art (pages 1-2).

12. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to recognize in Asami reference the mask data would have been produced to fabricate the reticle as taught by Applicant admitted prior art in order to complete the semiconductor device with higher degree of integration.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matsura et al. (US 4,809,029), Sugiyama et al. (US 4,207,556), Ando et al. (US 4,969,029), Gould et al. (US 4,786,613), Davis (US 4,607,339), Hickman et al. (US 5,155,390), Fudanuki et al. (US 6,054,872) and Nakatsu et al. (EP 1061583 A1) teach several embodiments related to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Guerrero whose telephone number is 571-272-1837. The examiner can normally be reached on M-F (8:30-5:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 30, 2005

*Maria F. Guerrero*  
**MARIA F. GUERRERO**  
**PRIMARY EXAMINER**